

## ABSTRACT OF THE DISCLOSURE

A method is provided for the quantitative analysis of the concentration of impurities in helium by ion mobility spectrometry. The method employs (1) purified argon together with the helium to be analyzed for forming the sample gas or (2) pure argon as the counterflow gas in the separation zone of the spectrometer or (3) helium-purified argon mixtures both for the sample gas and for the counterflow gas.